

Abstract Submitted  
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**Carbon nanotubes interactions: effects of chirality<sup>1</sup>** LILIA WOODS, ADRIAN POPESCU, University of South Florida, IGOR BONDAREV, North Carolina Central University — Calculations of the pressures on the surfaces of two concentric carbon nanotubes in vacuum are presented. The approach is based on quantizing the electromagnetic field and on the dyadic Green function method. Carbon nanotubes are described as dielectric bodies characterized by a spatially varying permittivity that is a complex function of frequency. The effects of the tubes chiralities on the strength of their mutual interactions are discussed. Furthermore, the results are compared with those obtained with a classical approach, where the carbon nanotubes interaction is described by using a pairwise additive type of interatomic potential.

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